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REMARKS

Claims 1-61 are pending in the application and are subject to a requirement for restriction. Applicants affirm the provisional election to prosecute the subject matter of Claims 1-33. Accordingly, Claims 34-61 are withdrawn from consideration by the Examiner. Claims 1-33 have been examined and stand rejected. Claims 2-5 have been canceled without prejudice to pursue the subject matter of these claims in another patent application that may be filed in the future. Claims 1 and 31-33 have been amended. Claims 62-77 have been added. Reconsideration of Claims 1 and 6-33 and allowance of Claims 1, 6-33, and 62-77 in view of the above amendments and following remarks is respectfully requested.

The Rejection of Claims 1-31 Under 35 U.S.C. § 102

Claims 1-31 stand rejected under 35 U.S.C. § 102 as anticipated by Brassington et al., International Patent Publication No. WO 96/07783. Applicants respectfully traverse the rejection for the following reasons.

Claim 1 recites a composite having first and second strata, each stratum containing fibers and binder. As stated by the Examiner on page 5 of the Office Action, the Brassington reference "does not teach the use of a binder in the second layer". Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention. Because the Brassington reference does not exactly describe the claimed invention, the reference is not anticipatory and withdrawal of this ground for rejection is respectfully requested.

Applicants submit that the Brassington reference also fails to teach, suggest, or otherwise render obvious the claimed invention.

The Rejection of Claims 1-31 Under 35 U.S.C. § 103

Claims 1-31 stand rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 4,145,464, issued to McConnell. Applicants respectfully traverse the rejection for the following reasons.

1 Claim 1 recites a composite having first and second strata and a transition zone intermediate and
2 coextensive with the strata. The first stratum includes hydrophobic fibers and a binder and the second
3 stratum includes a binder and fibers selected from among hydrophilic and hydrophobic fibers. Claims
4 2-30 depend from Claim 1 or claims that depend from Claim 1. Claim 31 recites a composite having
5 first and second strata and a transition zone intermediate and coextensive with the strata, with the first
6 stratum including polyethylene terephthalate fibers and bicomponent binding fibers and the second
7 stratum including crosslinked fibers and bicomponent binding fibers.

8 The McConnell reference describes a nonwoven fibrous structure that includes a low-density,
9 dry-formed fibrous section and opposed liquid-transmitting layers. See Column 5, lines 25-29. The
10 liquid transmitting layers are of an identical construction and are formed from particulate material that
11 is chemically bonded together to stabilize the layers. See Column 5, lines 49-52. The reference teaches
12 that the liquid-transmitting layer is formed from hydrophilic particulate material because these materials
13 enhance the capability of the liquid-transmitting layer to both retain liquids in its structure and to
14 laterally move liquids for absorption into dry areas of the intermediate fibrous section. See Column 6,
15 lines 37-42.

16 The claimed invention differs significantly from the fibrous structure described in the
17 McConnell reference in both its composition and structure.

18 First, in contrast to the claimed invention, the liquid-transmitting layers described in the
19 reference are composed of hydrophilic particulate material. Because the reference teaches the use of a
20 hydrophilic material in the structure's outermost layer, the reference teaches away from the claimed
21 invention, which recites a composite having a first stratum that includes hydrophobic fibers.

22 Second, the absorbent structure described in the reference includes liquid-transmitting layers
23 composed of particulate material. Applicants submit that the material is indeed a particulate and not a
24 fiber as in the claimed invention. At Column 6, lines 42-54, the reference states:

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1 Different types of particulate material can be employed to form [liquid-transmitting]
2 layers, such as diatomaceous earth particles, starch particles and, most preferably, short
3 cellulosic particles generated in processing steps of the dry-forming operation
4 employed to form the [structure's] fibrous section. Another suitable material which
5 can be employed as the particulate material is a cellulosic fiber . . . available in the size
6 range of from about 40 to 110 microns.

7 Clearly, the reference is describing the use of a particulate. In describing the use of a cellulosic
8 fiber as a suitable particulate, the reference describes an extremely small cellulosic particle (40 to 110
9 micron size) that is derived from a cellulosic fiber that has been mechanically beaten and fragmented.
10 The reference goes on to describe the particle for use in the liquid-transmitting layer as of a size that 50
11 percent passes through a 150 mesh screen. See Column 6, lines 54-62. The reference further states
12 that, for the liquid-transmitting layers to perform their intended fluid-spreading function, the capillary
13 structure within each layer should be smaller than the capillary structure of the dry-formed fibrous
14 section. See Column 7, lines 9-13. To achieve such a construction the structure's intermediate fibrous
15 section includes short cellulosic fibers (average length 2.4 mm) of which over 50 percent have a size
16 range greater than 14 mesh, and the liquid-transmitting layers include cellulosic particles (i.e., dust from
17 dry-forming fibrous section) of which greater than 62 percent pass through a 150 mesh screen. See
18 Column 7, lines 13-32. Fairly read, the reference describes the use of short cellulosic fibers (greater
19 than 50 percent retained by 14 mesh screen) for the structure's fibrous section and cellulosic particulates
20 (greater than 50 percent pass through 150 mesh screen) in the liquid-transmitting layers.

21 Applicants submit that, in contrast to the claimed invention, which recites a fibrous first stratum
22 and a fibrous second stratum, the structure described in the reference does not include a fiber-containing
23 liquid-transmitting layer but, rather, includes a particulate-containing liquid-transmitting layer. The
24 distinction between fiber and particulate is further supported by the language of the reference itself.
25 The reference describes the absorbent structure's liquid-transmitting layers as "particulate layers" (see
Column 6, line 4), and describes the structure's high-volume liquid storage region as the "fibrous
section" (see Column 6, lines 2-3).

1 The distinction between fiber and particulate is illustrated by the plain meanings of these terms.
2 THE AMERICAN HERITAGE DICTIONARY, Second College Edition, defines fiber as "1. A slender,
3 elongated structure. 2. One of the elongated, thick-walled cells that give strength and support to plant
4 tissue." Particulate is defined as "of, pertaining to, or formed of separate particles" and defines particle
5 as "a very small piece or part, speck". The plain meanings of the terms "fiber" and "particulate" are
6 consistent with the terms' usage in the cited reference and evidence the difference between these terms.

7 Furthermore, at Column 2, lines 41-52, the reference describes a liquid-transmitting layer of
8 particulate material, a portion of which can extend outwardly from the center of the structure so as to be
9 free of fibers. Thus, the reference describes the liquid-transmitting particulate layer as free of fibers.

10 Finally, the Examiner notes that the reference does not teach the use of a binder in the "fibrous
11 section" of the structure, but concludes that it would be obvious to modify the structure so as to arrive at
12 the claimed invention, which does include a binder in both strata. Beyond the significant differences in
13 the absorbent structure of the McConnell reference and the claimed invention described above,
14 applicants submit that, although the Examiner states that it would be obvious to modify the McConnell
15 structure to include a binder in the fibrous section, there is no suggestion to do so and that the teaching
16 of the reference would provide no motivation to do so. The fibrous section is the structure's low-
17 density, high-volume liquid storage region in which no lateral liquid wicking is desired. See Column 2,
18 line 60. The reference teaches that it is extremely important to chemically bond together the particulate
19 material of the liquid-transmitting layers to maintain the integrity of the layer so that it is capable of
20 performing its intended liquid-transmitting function. See Column 4, lines 18-24. Thus, the reference
21 teaches not to bond the fibrous section because to do so would increase its liquid-transmitting function,
22 which would be contrary to the stated purpose of the storage region where no lateral wicking is desired.
23 Instead, to improve the integrity and strength of the structure's fibrous section, the reference teaches the
24 desirability of including a minor proportion of textile-length fibers intermingled with the cellulosic
25 fibers. Thus, the reference addresses additives to the fibrous section and teaches the addition of a

1 textile-length fiber to the fibrous section to improve strength. The reference does not teach, remotely
2 suggest, or provide any motivation to use a binder in the fibrous section for any purpose.

3 For the foregoing reasons, the McConnell reference does not render obvious the invention as
4 now claimed. Because the reference does not teach, suggest, provide motivation to make, or otherwise
5 render obvious the claimed invention, applicants respectfully request that this ground for rejection be
6 withdrawn.

7 The Rejection of Claim 32 Under 35 U.S.C. §§ 102/103

8 Claim 32 stands rejected under 35 U.S.C. § 102 as anticipated by or, in the alternative, under 35
9 U.S.C. § 103 as patentable in view of the Brassington reference. Applicants respectfully traverse the
10 rejection for the following reasons.

11 Claim 32 relates to an absorbent composite having a first stratum that includes polyethylene
12 terephthalate fibers and bicomponent binding fibers, a second stratum that includes crosslinked fibers
13 and a wet strength agent, and a transition zone intermediate and coextensive with the first and second
14 strata with the transition zone including fibers from the first and second strata commingled substantially
15 uniformly across the composite's width and along the composite's length.

16 The Brassington reference describes an absorbent material having at least three layers of
17 nonwoven fiber materials: two outermost layers at opposite sides of the material and which include
18 hydrophobic fibers; and at least one inner layer between the outermost layers and which is an absorbent
19 layer. See page 3, lines 4-9. The three-layered absorbent material is prepared by a needling process that
20 causes clusters of fibers to extend from the absorbent inner layer into the outermost layers. See page 3,
21 lines 22-26. The reference is silent with respect to a structure that includes (1) a binder of any kind in
22 the second stratum, (2) polyethylene terephthalate fibers, (3) crosslinked cellulosic fibers, and (4) a wet
23 strength agent, each a recited element of Claim 32. Because the reference does not exactly describe the
24 claimed invention, the reference is not anticipatory and withdrawal of this ground for rejection is
25 respectfully requested.

1 Furthermore, the teaching of the reference does not render the claimed invention obvious. The
2 reference simply provides no teaching, suggestion, or motivation to make the invention of Claim 32.
3 Accordingly, withdrawal of this ground for rejection is respectfully requested.

4 The Rejection of Claim 33 Under 35 U.S.C. § 103

5 Claim 33 stands rejected under 35 U.S.C. § 103 as being unpatentable in view of the
6 Brassington reference. Applicants respectfully traverse the rejection for the following reasons.

7 Claim 33 relates to a foam-formed absorbent composite having a first stratum that includes
8 hydrophobic fibers and a binder, a second stratum that includes a binder and fibers selected from among
9 hydrophilic and hydrophobic fibers, and a transition zone intermediate and coextensive with the first
10 and second strata with the transition zone including fibers from the first and second strata commingled
11 substantially uniformly across the composite's width and along the composite's length.

12 The Brassington reference specifically fails to describe or suggest an absorbent material having a
13 second stratum that includes a binder and is silent with respect to foam-formed absorbent materials.
14 The reference simply provides no teaching, suggestion, or motivation to make the invention of Claim
15 33. Accordingly, withdrawal of this ground for rejection is respectfully requested.

16 New Claims 62-77

17 Applicants submit that new Claims 62-77 are patentable in view of the references cited by the
18 Examiner.

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Conclusion

In view of the above amendments and foregoing remarks, applicants believe that Claims 1, 7-33, and 62-77 are in condition for allowance. If any issues remain that may be expeditiously addressed in a telephone interview, the Examiner is encouraged to telephone the undersigned at 206/695-1755.

Respectfully submitted,

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I hereby certify that this correspondence is being deposited with the U.S. Postal Service in a sealed envelope as first class mail with postage thereon fully prepaid addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231, on March 20, 2000.

Date: March 20, 2000

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